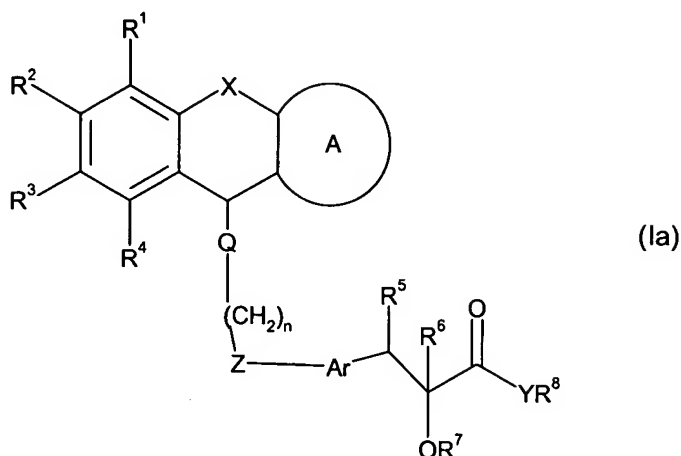


What is claimed is:

1. A compound of formula (Ia)



5

- wherein R^1 , R^2 , R^3 , and R^4 independently of each other represent hydrogen, halogen, perhalomethyl, hydroxy, nitro, cyano, formyl, or C_{1-12} alkyl, C_{4-12} -alkenynyl, C_{2-12} -alkenyl, C_{2-12} -alkynyl, C_{1-12} alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxy C_{1-12} alkyl, amino, acylamino, C_{1-12} alkyl-amino, arylamino, aralkylamino, amino C_{1-12} alkyl, C_{1-12} alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, C_{1-12} alkoxy C_{1-12} alkyl, aryloxy C_{1-12} alkyl, aralkoxy C_{1-12} alkyl, C_{1-12} alkylthio, thio C_{1-12} alkyl, C_{1-12} alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, $-COR^{11}$, or $-SO_2R^{12}$, wherein R^{11} and R^{12} independently of each other are selected from hydroxy, halogen, perhalomethyl, C_{1-6} alkoxy or amino optionally substituted with one or more C_{1-6} alkyl, perhalomethyl or aryl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano; or R^1 and R^2 , R^2 and R^3 and/or R^3 and R^4 , together with the carbon atoms to which they are attached, may form a cyclic ring containing from 5 to 7 carbon atoms optionally substituted with one or more C_{1-6} alkyl;
- 10
- 15
- 20

- ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro, cyano, formyl, or C_{1-12} alkyl, C_{4-12} -alkenynyl, C_{2-12} -alkenyl, C_{2-12} -alkynyl, C_{1-12} alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxy C_{1-12} alkyl, amino, acylamino, C_{1-12} alkyl-amino, arylamino, aralkylamino,
- 25

aminoC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, C₁₋₁₂alkoxyC₁₋₁₂alkyl, aryloxyC₁₋₁₂alkyl, aralkoxyC₁₋₁₂alkyl, C₁₋₁₂alkylthio, thioC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, -COR¹¹, or -SO₂R¹², wherein R¹¹ and R¹² independently of each other are selected from

- 5 hydroxy, halogen, perhalomethyl, C₁₋₆alkoxy or amino optionally substituted with one or more C₁₋₆alkyl, perhalomethyl or aryl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano;

- X is -O-, -(NR⁹)-CH₂-, -(C=O)-, -(NR⁹)-S(O₂)-, -(NR⁹)-, -(CO)-(CHR⁹)-, -S-, -(SO)-, -(SO₂)-, -CH₂-O-CH₂-, wherein R⁹ is hydrogen, halogen, hydroxy, nitro, cyano, formyl, C₁₋₁₂alkyl, C₁₋₁₂alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxyalkyl, amino, acylamino, C₁₋₁₂alkyl-amino, arylamino, aralkylamino, aminoC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, C₁₋₁₂alkoxyC₁₋₁₂alkyl, aryloxyC₁₋₁₂alkyl, aralkoxyC₁₋₁₂alkyl, C₁₋₁₂alkylthio, thioC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, -COR¹³, or -SO₂R¹⁴, wherein R¹³ and R¹⁴ independently of each other are selected from hydroxy, halogen, C₁₋₆alkoxy, amino optionally substituted with one or more C₁₋₆alkyl, perhalomethyl or aryl;

- Z is -CH₂-, -O-, -S-, >SO₂-, >NR¹⁵, wherein R¹⁵ is hydrogen, halogen, hydroxy, nitro, cyano, formyl, C₁₋₁₂alkyl, C₁₋₁₂alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxyalkyl, amino, acylamino, C₁₋₁₂alkyl-amino, arylamino, aralkylamino, aminoC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, C₁₋₁₂alkoxyC₁₋₁₂alkyl, aryloxyC₁₋₁₂alkyl, aralkoxyC₁₋₁₂alkyl, C₁₋₁₂alkylthio, thioC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonylamino, aryloxycarbonylamino, aralkoxycarbonylamino, -COR¹⁶, or -SO₂R¹⁷, wherein R¹⁶ and R¹⁷ independently of each other are selected from hydroxy, halogen, C₁₋₆alkoxy, amino optionally substituted with one or more C₁₋₆alkyl, perhalomethyl or aryl;

Q is -O-, -S-, >NR¹⁸ wherein R¹⁸ is hydrogen or C₁₋₆alkyl;

- 30 Ar represents arylene, heteroarylene, or a divalent heterocyclic group optionally substituted with one or more C₁₋₆alkyl or aryl;

R⁵ represents hydrogen, hydroxy, halogen, C₁₋₁₂alkoxy, C₁₋₁₂alkyl, C₄₋₁₂-alkenynyl, C₂₋₁₂-alkenyl, C₂₋₁₂-alkynyl or aralkyl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano; or R⁵ forms a bond together with R⁶;

R⁶ represents hydrogen, hydroxy, halogen, C₁₋₁₂alkoxy, C₁₋₁₂alkyl, C₄₋₁₂-alkenynyl, C₂₋₁₂-alkenyl, C₂₋₁₂-alkynyl, acyl or aralkyl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano; or R⁶ forms a bond together with R⁵;

5 R⁷ represents hydrogen, C₁₋₁₂alkyl, C₄₋₁₂-alkenynyl, C₂₋₁₂-alkenyl, C₂₋₁₂-alkynyl, aryl, aralkyl, C₁₋₁₂alkoxyC₁₋₁₂alkyl, C₁₋₁₂alkoxycarbonyl, aryloxy carbonyl, C₁₋₁₂alkylaminocarbonyl, arylaminocarbonyl, acyl, heterocyclyl, heteroaryl or heteroaralkyl groups; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano;

10 R⁸ represents hydrogen, C₁₋₁₂alkyl, C₄₋₁₂-alkenynyl, C₂₋₁₂-alkenyl, C₂₋₁₂-alkynyl, aryl, aralkyl, heterocyclyl, heteroaryl or heteroaralkyl groups; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano;

Y represents oxygen, sulphur or NR¹⁰, where R¹⁰ represents hydrogen, C₁₋₁₂alkyl, aryl, hydroxyC₁₋₁₂alkyl or aralkyl groups or when Y is NR¹⁰, R⁸ and R¹⁰ may form a 5 or 6 membered nitrogen containing ring, optionally substituted with one or more C₁₋₆alkyl;

15

n is an integer ranging from 1 to 4;

20 or a pharmaceutically acceptable salt thereof.

2. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, halogen, perhalomethyl, hydroxy, cyano, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxyC₁₋₇alkyl, amino, acylamino, C₁₋₇alkyl-amino, arylamino, aralkylamino, aminoC₁₋₇alkyl, C₁₋₇alkoxycarbonyl, aryloxy carbonyl, aralkoxycarbonyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl, C₁₋₇alkylthio, thioC₁₋₇alkyl, C₁₋₇alkoxycarbonylamino, aryloxy carbonylamino, aralkoxycarbonylamino, -COR¹¹, or -SO₂R¹², wherein R¹¹ and R¹² independently of each other are selected from hydroxy, perhalomethyl, C₁₋₆alkoxy or amino optionally substituted with one or more C₁₋₆alkyl, perhalomethyl or aryl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano;

25

30 or R¹ and R², R² and R³ and/or R³ and R⁴ may form a cyclic ring containing from 5 to 7 carbon atoms optionally substituted with one or more C₁₋₆alkyl.

3. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, halogen, perhalomethyl, hydroxy, cyano, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, hydroxyC₁₋₇alkyl, amino, acylamino, C₁₋₇alkyl-amino, arylamino, aralkylamino, aminoC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl, C₁₋₇alkylthio, thioC₁₋₇alkyl, C₁₋₇alkoxycarbonylamino, aryloxcarbonylamino or aralkoxycarbonylamino.
4. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, halogen, perhalomethyl, hydroxy, cyano, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, acyl, hydroxyC₁₋₇alkyl, amino, C₁₋₇alkyl-amino, arylamino, aralkylamino, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl or C₁₋₇alkylthio.
5. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, halogen, perhalomethyl, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, aryl, aralkyl, hydroxyC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl or aralkoxyC₁₋₇alkyl.
6. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, halogen or C₁₋₇alkyl.
7. A compound of claim 1 wherein R¹, R², R³, and R⁴ independently of each other represent hydrogen, chlorine or methyl.
8. A compound of claim 1 wherein ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more halogen, perhalomethyl, hydroxy, cyano or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, hydroxyC₁₋₇alkyl, amino, acylamino, C₁₋₇alkyl-amino, arylamino, aralkylamino, aminoC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl, C₁₋₇alkylthio, thioC₁₋₇alkyl, C₁₋₇alkoxycarbonylamino, aryloxcarbonylamino, aralkoxycarbonylamino, -COR¹¹, or -SO₂R¹², wherein R¹¹ and R¹² independently of each other are selected from hydroxy, perhalomethyl, C₁₋₆alkoxy or amino optionally substituted with one or more C₁₋₆alkyl, perhalomethyl or aryl; optionally substituted with one or more halogen, perhalomethyl, hydroxy or cyano.

9. A compound of claim 1 wherein ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more halogen, perhalomethyl, hydroxy, cyano, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, acyl, hydroxyC₁₋₇alkyl, amino, acylamino, C₁₋₇alkyl-amino, arylamino, aralkylamino, aminoC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl, C₁₋₇alkylthio, thioC₁₋₇alkyl, C₁₋₇alkoxycarbonylamino, aryloxycarbonylamino or aralkoxycarbonylamino.
10. A compound of claim 1 wherein ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more halogen, perhalomethyl, hydroxy, cyano, or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, acyl, hydroxyC₁₋₇alkyl, amino, C₁₋₇alkyl-amino, arylamino, aralkylamino, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl or C₁₋₇alkylthio.
11. A compound of claim 1 wherein ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more halogen, perhalomethyl or C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, C₁₋₇alkoxy, aryl, aralkyl, hydroxyC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl or aralkoxyC₁₋₇alkyl.
12. A compound of claim 1 wherein ring A represents a 5-6 membered cyclic ring, optionally substituted with one or more chlorine or methyl groups.
13. A compound of claim 1 wherein X is -O-, -(NR⁹)-CH₂-, -(C=O)-, -(NR⁹)-S(O₂)-, -(NR⁹)-, -(CO)-(CHR⁹)-, -S-, -(SO)-, -(SO₂)-, or -CH₂-O-CH₂-, wherein R⁹ is hydrogen, halogen, hydroxy, C₁₋₇alkyl, C₁₋₇alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, hydroxyalkyl, amino, acylamino, C₁₋₇alkyl-amino, arylamino, aralkylamino, aminoC₁₋₇alkyl, C₁₋₇alkoxyC₁₋₁₂alkyl, aryloxyC₁₋₇alkyl, aralkoxyC₁₋₇alkyl, C₁₋₁₂alkylthio, thioC₁₋₇alkyl, C₁₋₇alkoxycarbonylamino, aryloxycarbonylamino or aralkoxycarbonylamino.
14. A compound of claim 1 wherein X is -O-, -(NR⁹)-CH₂-, -(C=O)-, -(NR⁹)-S(O₂)-, -(NR⁹)-, -(CO)-(CHR⁹)-, -S-, -(SO)-, -(SO₂)-, or -CH₂-O-CH₂-, wherein R⁹ is hydrogen, halogen, hydroxy, C₁₋₇alkyl, aryl, aralkyl, C₁₋₇alkoxyC₁₋₁₂alkyl, aryloxyC₁₋₇alkyl or aralkoxyC₁₋₇alkyl.

15. A compound of claim 1 wherein X is -O-, -(NR⁹)-CH₂-, -(C=O)-, -(NR⁹)-S(O₂)-, -(NR⁹)-, -(CO)-(CHR⁹)-, -S-, -(SO)-, -(SO₂)-, or -CH₂-O-CH₂-, wherein R⁹ is hydrogen.
16. A compound of claim 1 wherein Z is -CH₂-, -O-, -S-, , >NR¹⁵, wherein R¹⁵ is
5 hydrogen, C₁₋₁₂alkyl, C₁₋₇alkoxy, aralkyl, aralkoxy, hydroxyalkyl, aminoC₁₋₇alkyl, C₁₋₁₂alkoxyC₁₋₇alkyl, aryloxyC₁₋₇alkyl or aralkoxyC₁₋₇alkyl.
17. A compound of claim 1 wherein Z is -CH₂-, -O-, -S- or >NR¹⁵, wherein R¹⁵ is hydrogen.
18. A compound of claim 1 wherein Z is -O-.
- 10 19. A compound of claim 1 wherein Q is -O-, -S- or >NR¹⁸ wherein R¹⁸ is hydrogen or methyl.
20. A compound of claim 1 wherein Q is -O- or >NR¹⁸ wherein R¹⁸ is methyl.
- 15 21. A compound of claim 1 wherein Ar represents arylene optionally substituted with one or more C₁₋₆alkyl or aryl.
22. A compound of claim 1 wherein Ar is phenyl.
- 20 23. A compound of claim 1 wherein R⁵ is hydrogen, hydroxy, halogen, C₁₋₇alkoxy, C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl or aralkyl, or R⁵ forms a bond together with R⁶.
24. A compound of claim 1 wherein R⁵ is hydrogen or R⁵ forms a bond together with R⁶.
- 25 25. A compound of claim 1 wherein R⁵ is hydrogen, hydroxy, halogen, C₁₋₇alkoxy, C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl or aralkyl, or R⁵ forms a bond together with R⁶.
26. A compound of claim 1 wherein R⁵ is hydrogen or R⁵ forms a bond together with R⁶.
- 30 27. A compound of claim 1 wherein R⁷ is hydrogen, C₁₋₇alkyl, C₄₋₇-alkenynyl, C₂₋₇-alkenyl, C₂₋₇-alkynyl, aryl, aralkyl, C₁₋₇alkoxyC₁₋₇alkyl, C₁₋₇alkoxycarbonyl, aryloxycarbonyl, C₁₋₇alkylaminocarbonyl, arylaminocarbonyl, acyl, heterocyclyl, heteroaryl or heteroaralkyl.

28. A compound of claim 1 wherein R^7 is hydrogen, C_{1-7} alkyl, C_{4-7} -alkenynyl, C_{2-7} -alkenyl or C_{2-7} -alkynyl.
29. A compound of claim 1 wherein R^7 is C_{1-2} alkyl.
- 5 30. A compound of claim 1 wherein R^8 is hydrogen, C_{1-7} alkyl, C_{4-7} -alkenynyl, C_{2-7} -alkenyl, C_{2-7} -alkynyl, aryl, aralkyl, heterocyclyl, heteroaryl or heteroaralkyl groups; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano.
- 10 31. A compound of claim 1 wherein R^8 is hydrogen, C_{1-7} alkyl, C_{4-7} -alkenynyl, C_{2-7} -alkenyl, C_{2-7} -alkynyl, aryl or aralkyl.
32. A compound of claim 1 wherein R^8 is hydrogen or C_{1-2} alkyl.
- 15 33. A compound of claim 1 wherein Y is oxygen, sulphur or NR^{10} , where R^{10} is hydrogen, C_{1-7} alkyl, aryl, hydroxy C_{1-7} alkyl or aralkyl.
34. A compound of claim 1 wherein Y is oxygen.
- 20 35. A compound of claim 1 wherein n is an integer ranging from 2 to 3.
36. A compound of claim 1 wherein A is benzo.
37. A compound of claim 1 wherein A is a five membered ring containing S.
- 25 38. A compound of claim 1 wherein Q is -O-.
39. A compound of claim 1 wherein Q is -S-.
- 30 40. A compound of claim 1 wherein Q is $>NR^{18}$, wherein R^{18} is C_{1-6} -alkyl.
41. A compound of claim 1 wherein Z is -O-.
42. A compound of claim 1 wherein n is 2.
- 35 43. A compound of claim 1 wherein Q is -O-.

44. A compound of claim 1 wherein Ar is phenylene.
45. A compound of claim 1 wherein R⁵ is H.
- 5 46. A compound of claim 1 wherein R⁶ is H.
47. A compound of claim 1 wherein R⁷ is ethyl.
- 10 48. A compound of claim 1 wherein R⁸ is H.
49. A pharmaceutical composition comprising, as an active ingredient, an effective amount of a compound of claim 1 together with a pharmaceutically acceptable carrier or diluent.
- 15 50. The pharmaceutical composition of claim 49 in unit dosage form, comprising from about 0.05 to about 100 mg of the compound.
51. The pharmaceutical composition of claim 49 wherein the route of administration is oral, nasal, transdermal, pulmonal, or parenteral.
- 20 52. A method of treating or preventing conditions mediated the Peroxisome Proliferator-Activated Receptors (PPAR), the method comprising administering to a subject in need thereof an effective amount of a compound of claim 1.
- 25 53. A method of treating or preventing diabetes or obesity, the method comprising administering to a subject in need thereof an effective amount of a compound of claim 1.
54. The method of claim 52, wherein the effective amount of the compound is in the range of from about 0.05 to about 100 mg per day.